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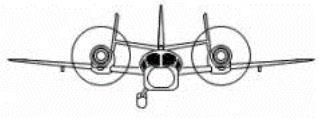

Online newsletter of Army aircraft mishap prevention information

This issue of *Flightfax* is the midpoint review of the FY15 mishaps. The goal of this issue is to learn the lessons of other pilot's mistakes so that we can reduce the number of accidents for the remainder of the fiscal year. The historic trend of human error causing more than 80% of our mishaps continues to be true with 6 of the 7 Class A's and 2 of the 3 Class B mishaps attributed to pilot error.

The midpoint Class A flight mishap rate is 1.53 which compares to the FY14 end of year rate of 1.52. This rate is higher than the three year average of 1.28 and above the 5 year average of 1.33. In real terms, we have had seven Class A mishaps resulting in thirteen fatalities (6x Army, 7x USMC). This mishap count is two lower than the number of FY14 mishaps (9) at the midpoint, but the number of fatalities are already higher now than the total number of aviation fatalities (6) for the entirety of last year. Within the six human error mishaps, four resulted from not executing basic ATM tasks to standard, three had individual failure/decision making errors, two occurred with standardization pilots conducting formal training, all six occurred at night, and three happened while operating in DVE. Of significant note, in 5 of the 6 human error mishaps there were failures in aircrew coordination that contributed to the mishaps.

The observation from USACRC is that the three broad concepts of standardization, risk management and aircrew coordination are inextricably linked. One way to think about this is that standardization is "how we perform the task", risk management is "should we perform the task," and aircrew coordination is the bridge between the two defined as the "cooperative interaction between crewmembers for the safe, efficient, and effective performance of flight tasks." In simpler terms, if we use all of the strategies within aircrew coordination, we will naturally improve our task performance and our risk management decision making.

Both risk management and aircrew coordination begin in the pre-mission planning phase. By applying the principles of risk management (as outlined in ATP 5-19), we identify the known hazards, apply the appropriate controls, and have the mission approved by a commander with the authority to accept the risk. Parallel to the risk management process, aircrew coordination is started by planning and discussing the crew level actions needed to accomplish the mission tasks and to implement the hazard controls directed by the commander. As stated in the Aircrew Training Manuals, this "involves the crew collectively visualizing and discussing expected and potential unexpected events for the entire mission. Through this process, all crewmembers discuss and think through contingencies and actions for difficult segments, equipment limitations and failures, or unusual events associated with the mission, and develop strategies to cope with possible contingencies (METT-TC)." So at this point the mission is planned, the hazards are identified, and the entire crew has discussed the detailed aircrew actions they will use during each phase of the mission.

Once in flight, both risk management and aircrew coordination are still used continuously to ensure the safe, efficient, and effective performance of flight tasks. These two decision making systems naturally go together. The aircrew uses the five steps of the risk management process over

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and over again to identify any unplanned hazards, which is then followed by the elements of aircrew coordination to communicate effectively and exchange mission information necessary to make the decisions on how to handle these emerging hazards. Once the crew determines "if we should do the task," then the aircrew coordination process bridges over to "how we perform the task" – the standardization part. The pilot on the controls flies the aircraft adhering to the standards and descriptions found in the ATM while the aircrew coordination process continues to work with the other crewmembers cross monitoring performance, providing situational aircraft and mission advisories, and by coordinating actions, events, and workloads. If another unplanned hazard is identified, then the risk management decision making process is restarted and again supported by aircrew coordination so that the crew can select another course of action that mitigates the new hazard.

Standardization errors, risk management decision errors, and aircrew coordination errors can all result in an aircraft mishap if not corrected. It is easy to think of these three broad concepts as separate and distinct, but they are much more effective when they are used together as part of the aircrew's continuous decision making process. When an aircrew collectively understands "if we should do a task" and "how we perform the task," and those decisions are managed using the cooperative interaction of aircrew coordination, then we will have all the tools necessary to begin reducing the number of human error accidents.

Until next month, fly safe and manage your risk levels!

COL Mike Higginbotham
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Manned Aircraft Class A – C Mishap Table as of 22 Apr 15

	Month	FY 14 Class A Mishaps	FY 14 Class B Mishaps	FY 14 Class C Mishaps	FY 14 Fatalities		FY 15 Class A Mishaps	FY 15 Class B Mishaps	FY 15 Class C Mishaps	FY 15 Fatalities
1st Qtr	October	0	0	2	0		0	1	3	0
	November	3	0	5	0		2	0	1	2
	December	1	0	4	0		1	1	2	0
2nd Qtr	January	2	2	4	4		2	0	5	0
	February	1	0	3	0		0	0	0	0
	March	0	3	0	0		2	1	9	11
3rd Qtr	April	1	1	7	0					
	May	4	0	3	2					
	June	2	1	7	0					
4th Qtr	July	2	0	5	0					
	August	0	0	1	0					
	September		1	5	0					
	Total for Year	16	8	46	6	Year to Date	7	3	20	13
	Class A Flight Accident rate per 100,000 Flight Hours									
	5 Yr Avg: 1.33		3 Yr Avg: 1.28			FY 14: 1.52			Current FY: 1.53	

Preliminary Report on 1st Half FY15 Aircraft Mishaps

In the **manned aircraft** category, Army aviation experienced 29 Class A - C aircraft accidents the first half of this fiscal year. These mishaps resulted in 13 fatalities. Seven of the accidents were Class A, three were Class B, and 19 were Class C. For comparison, the first half of FY14 had 30 Class A – C aircraft accidents – seven Class A (four fatalities), five Class B, and 18 Class C.

For the first half of FY15, six of the seven Class A mishaps and two of the three Class B mishaps were the result of human error (80%) with one Class A unknown/not yet reported and one Class B materiel failure. All of the seven Class A and one of the B mishaps occurred at night. One Class B materiel failure was reported (main rotor blade failure in flight). There were two bird strike Class C mishaps. Two of the 10 Class A and B mishaps occurred in OEF/Iraq.

Operations in degraded visual environments were contributing factors in three Class A mishaps. Additionally, there was one Class A C-27 mid-air collision.

	Class A	Class B	Class C
H-60	4	2	9
AH-64	1	0	3
H-47	0	0	1
OH-58D	0	0	1
LUH-72/Mi-17	0	0	1
TH-67/OH-58A/C	0	1	0
H-6	1	0	1
Fixed Wing	1	0	3
Total	7	3	19

Synopsis of selected Class A accidents (Oct – Mar 15). (N/NVD) denotes night/night vision device mission:

Manned Class A

-AH-64D (NVS). Crew was conducting DECU lockout training when both engines increased to the over-speed protection limit and shut down. Aircraft crashed. Two fatalities.

-H-6 (NVG). Aircraft contacted trees en route to laager site. Cause not yet reported.

-H-60A (N). Aircraft crashed just after take-off trying to return to the airfield after encountering fog. Class A damage reported. Crew received minor injuries.

-C-27J (NVG). Aircrew was conducting a training flight when the aircraft made contact with a C-130 at 1,500 feet MSL.. Both crews were able to land their aircraft.

-H-60M (NVG). While conducting dust landing training, main rotor blade contacted and severed tail rotor driveshaft. Aircraft landed hard.

-H-60A (NVG) Aircraft developed a right spin when picked up to a hover with main rotor blades contacting T-barriers. Hydraulic line to #1 hydraulic pump found disconnected.

-H-60M (NVG) Flight of two reportedly experienced reduced weather conditions shortly after take-off for a NVG training mission. One aircraft impacted the water causing 11 fatalities.

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In the **unmanned aircraft systems** for the first half FY15, there were eight Class A–C incidents with one Class A, two Class B, and five Class C mishaps (total eight). For the same time period in FY14 there were three Class A, five Class B, and seven Class C mishaps (total 15). The single FY15 Class A was a MQ-5B Hunter. The two Class B mishaps were RQ-7B Shadows and the five UAS Class C mishaps included three RQ-7Bs, one MQ-1C, one MQ-5B, and one RQ-11A Raven.

	Class A	Class B	Class C
MQ-1	0	0	0
MQ-5B Hunter	1	0	1
RQ-7B Shadow	0	2	3
RQ-11 Raven	0	0	1
RQ-20A Puma	0	0	0
Total	1	2	5

Synopsis of the UAS Class A mishap (Oct 14 – Mar 15):

UAS Class A

-MQ-5B. System struck the arresting gear drum during landing to the airstrip. The main landing gear separated. Potential total loss.

UAS Class B

-RQ-7B. UA was on final approach at approximately 30' AGL when it lost power and crashed onto the runway.

Aerostat. There was one reported loss of an aerostat. The crew was attempting to lower the aerostat for impending weather when the tether broke. System was deemed a loss after failed attempts to track/locate.

UAS Class A – C Mishap Table as of 22 Apr 15

	FY 14					FY 15			
	Class A Mishaps	Class B Mishaps	Class C Mishaps	Total		Class A Mishaps	Class B Mishaps	Class C Mishaps	Total
MQ-1	6		3	9	W/GE				
MQ-5	1	1		2	Hunter	1		1	2
RQ-7		12	11	23	Shadow		2	3	5
RQ-11			1	1	Raven			1	1
RQ-20			1	1	Puma				
YMQ-18									
SUAV					SUAV				
UAS	7	13	16	36	UAS	1	2	5	8
Aerostat	3	2	3	8	Aerostat	0	1	0	1
Total for Year	10	15	19	44	Year to Date	1	3	5	9

A New Mission Brings New Focus

Chief Warrant Officer 5 Jim Strine
Directorate of Evaluation and Standardization
U.S. Army Aviation Center of Excellence
Fort Rucker, Ala.
Eastern Flight Standardization Branch Chief

After more than a decade of focusing on standardization and assistance to the active component CABs as they prepare for and fight the war, MG Lundy charged the Directorate of Evaluation and Standardization (DES) with a new mission. He wants us to get back to regular assessments of both the active and reserve components of Army aviation. For those of you who were around in the 1980's or 1990's, this does not mean a return to the DES of "yesteryear." The goal is to emphasize and promote safe, standard, training policies and practices across all Army components.

Many Army National Guard aviation (ARNG) units encountered DES while deployed down range in Iraq and Afghanistan. Those assessments were conducted in relation to the theater and CAB SOPs and policies for which the unit was deployed. This new directive will bring the Directorate to ARNG aviation units while in garrison. Assessments will focus on the SOPs and policies of the unit, its support facilities, and the state.

To accommodate the unique structure of ARNG aviation, the Directorate designed a flexible base model for assessments. The eight day model starts on Monday, proceeds through drill weekend, and concludes with an out-brief on the following Monday. After the initial in-brief on Monday, the assessment begins with the ARNG aviation support facility (AASF). The AASF portion of the assessment will focus on flight operations, facility and supported unit programs, facility and supported unit SOPs, CAFRS and/or IATF/IFRFs, and evaluations of full time AGR and technician personnel. All crewmembers, including those arriving for drill weekend, will be administered a written evaluation, preferably Friday evening. The focus on Saturday and Sunday will be flight, oral and written evaluations of the M-Day Soldiers.

DES is working with the National Guard Bureau Aviation and Safety Division (NGB-AV) to schedule assessments. The State ARNG Aviation Officer (SAAO) and brigade commander will be notified as early as possible of the upcoming assessment. We would like to see the unit conduct a MUTA-5 during the assessment to facilitate event scheduling, however, a MUTA-4 is acceptable. As the schedule is developed, final coordination with the state will determine the best week for the assessment to prevent unnecessary burden on the unit.

DES will contact the state approximately 90 days from the assessment date to gather POC information for commanders, and key standardization and safety personnel. This also marks a period of key information exchange as we prepare for the assessment; we will request the current SOP's and policies of the AASF and supported units, and provide POCs with demographic templates to complete and return. New SOPs are not required! Send the SOP that is being used. Complete the demographics completely and accurately, without changing any fields, to enhance evaluation scheduling and prevent unnecessary effort during the assessment. Flight schedules will be developed with appropriate POCs after the demographics are complete.

The following trend data can be used as guide to prepare for a DES Assessment. Data presented is compiled from both DES assessments and ARMS inspections, and is not intended as a comprehensive list. It is a discussion of recurring, common issues found across all ARNG units who have completed some type of assessment or inspection.

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SOP is an area of particular focus for several reasons. ARMS data indicates ATP SOPs are improving drastically, and recent DES assessments revealed units do have comprehensive SOPs. In fact, years of deployment and operations under other unit SOPs has positively influenced the content of all SOPs. But there are still some issues. An ARNG battalion in garrison may consist of companies comprised of several different airframes, each aligned with different "war time" headquarters. This has driven companies to operate on their own SOP, which creates standardization problems within the battalion. Another issue with a company SOP is the level of command. Many programs and policies defined in AR 95-1, NGB Supplement 1 to AR 95-1 (NGB 95-1), and TC 3-04.11 are battalion or higher level programs, and as such cannot be directed by the company commander in a company SOP. When adopting an SOP from down range, be sure to review the ATP section for compliance with ARNG requirements. Common errors include: 1) Omitting compliance with NGB 95-1, paragraph 4-11, which requires simulator minimums for "RW aviators **regardless of RL status**…" 2) Omitting compliance with STM 14-02 paragraph 4k and 4s, which requires ACTE completion as a condition of qualification and refresher training, and prior to progression to RL2. 3) Omitting compliance with STM 14-02 paragraph 4l, which requires assigning M-day crewmembers FAC 2 minimums upon designation of RL2. Finally, as stated before, don't make a new SOP for the assessment. The greatest number of incorrect answers on written evaluations consistently comes from the section on unit SOP.

RL progression errors closely parallel some of the SOP issues mentioned above. Units are failing to assign simulator minimums to aviators who are RL3. (Note that STM 15-02 was recently released, relieving UH-72 aviators from the simulation requirements of NGB 95-1.) Another common RL progression error is failing to complete ACTE prior to progressing any ARNG crewmember to RL2. The final common error is determining the correct progression date. Paragraph 4i of STM 14-02 includes other considerations for M-day crewmembers and a 90-day exclusion period.

Maintenance programs in general lack detailed, relevant maintenance SOP's. MOS Training documentation is often missing, and technical libraries contain outdated or missing publications. MEs, MTPs, and maintenance officers overall often lack the proper education and experience to perform their duty as program managers.

Other program trends include IFRFs missing CTLs, Aviation Badge Orders, course certificates, and timely closeout signatures. Academic programs are poorly documented and contain weak makeup procedures. Gunnery programs haven't been updated to the latest guidance in TC 3-04.45, and required documentation is missing. Many AIRFs have outdated publications and weak or no guidance on periodic review timeline limits and procedures.

Expanding the focus of DES means resuming assessments of the reserve components, while maintaining our existing footprint in the active component. The information presented in this article is intended to inform the ARNG and reserves of the assessment process, and relay common trends from historical data. Although the information is not all inclusive, my hope is it will be used a starting point to review current programs and operations for applicability. The goal is to produce safe, standard operating programs and procedures to protect our greatest asset, the Soldier, and the resources he or she interacts with. A byproduct of that is a successful assessment.

Mishap Review: UH-60 NVG training

As the UH-60A lifted from the parking pad, it began a right yaw. The aircraft completed two rotations before the PC forced the aircraft back down onto the parking pad. The aircraft received major damage with minor injuries to the crew.

History of flight

The mission was a two-ship NVG flight from their flight detachment location to the airport to pick up personnel and associated gear and return. The crew began their duty day at approximately 1500 hours for a scheduled 1930L departure. Preflight was conducted at 1530. The mission brief was completed with final approval from the task force commander. The reported weather was few clouds at 8,000 and 15,000 feet with visibility greater than 7 statute miles. The winds were 230 degrees at 8 knots. The temperature was 68 degrees Fahrenheit with a dew point of 48 degrees. The altimeter setting was 29.90 Hg with a pressure altitude of 131 feet. Illumination was zero percent.

At 2007L, following aircraft run-up, the PC began to lift the aircraft off the parking pad to a high hover to remain clear of the 12-foot high concrete T-walls on each side of the pad during back taxi. As soon as the tail wheel left the ground the aircraft began a clockwise right-yaw rotoation. The PC increased collective to maintain clearance from the T-walls as the aircraft rotated almost two full revolutions to the right before the PC forced the aircraft back down onto the parking pad resulting in a hard landing. The main rotor blades struck the barriers during the emergency engine shutdown. The aircraft sustained significant damage with minor injuries to the crew.

Crewmember experience

The PC, sitting in the left seat, had 1,200 hours total flight time, 950 hours UH-60A/L, 325 hours NVG and 525 hours combat. The PI had 466 hours total time of which nearly 400 were in the UH-60, 100 hours of NVG and 6 hours combat.

Commentary

The investigation determined the #1 hydraulic pump return line quick disconnect was not connected to the pump module which prevented the tail servo from actuating, resulting in an inadequate fixed pitch setting for the tail rotor. It could not be determined how/when the return line was disconnected but an undocumented action was suspected. Additionally, the crew failed to identify the disconnected line on preflight.

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[Views expressed are to generate professional discussion and are not U.S. Army or USACRC policy]

Aircrew coordination - not just for your crew

I want you to do something in conjunction with reading this month's Flightfax. Dig out an ATM and read the chapter (usually chapter 6) addressing crew coordination. It's not that long and is not a difficult read. You will find the crew coordination elements and basic qualities as well as objectives and terminology. These aren't necessarily things you need to memorize, but you should be familiarized enough to understand and implement them. You should also notice that the message seems to be directed at internal crew communications – those within your own aircraft. But what about communications between flight elements in a formation?

Broadly defined, aircrew coordination is the interaction between crewmembers necessary for the safe, efficient, and effective performance of tasks. Got that right out of the manual. I don't see any limitations on applying these principles with other aircrews in the conduct of multi-aircraft operations.

If you again read back through Chapter 6 and substitute aircraft elements or chalks for crewmember you see how the message doesn't change for multi-aircraft operations. The two-challenge rule may be a bit of stretch but you get the idea. So we've pretty much been following these guidelines but has it been with the same vigor as within your personal aircraft?

How many times have you been in a formation and discussed amongst your own crew what lead was doing up front? Perhaps they have deviated from the route or are setting up for an alternate landing direction, speeds and altitudes weren't as briefed or outside influences have changed such as weather. You're just not sure what is going on and the lead aircraft or the AMC hasn't provided additional information. But you keep strumming along maintaining your position and radio silence.

You wouldn't allow this breakdown in communication and subsequent lack of situational awareness to occur in your cockpit, so why remain silent when it occurs in the formation? Conversely, if you are lead or AMC and were making changes within your aircraft, wouldn't you inform your crew? Of course you would, so extend the courtesy to your formation elements.

There are probably a hundred points that could be made on crew coordination within a flight but I'll focus on just two. Under the elements you'll see **"offer assistance"** for the following: (3) any time a crewmember sees or recognizes anything that poses a hazard to flight.

Some time ago an accident occurred involving a flight of two aircraft operating in low contrast, low illumination conditions resulting in Chalk 2 becoming spatially disoriented and impacting the ground. It was noted in describing the accident that the training area the two aircraft were transiting toward was occupied by other aircraft and that flight lead communicated they would orbit the flight until the area was clear. My initial thought was that you don't orbit a formation under those flight conditions. That wasn't based on my knowledge of the outcome but on my experiences of operating under similar conditions. It's already a tough flight environment to deal with and continuous turns would only increase the difficulty. The PC of Chalk 2 should have realized the increased workload and hazardous condition that would accompany the orbiting and "offered assistance" to flight lead by recommending an alternate course of action.

My second point. **"Cross monitoring"** performance is the primary mechanism for breaking error chains that lead to accidents or degraded mission performance. Crewmembers must be capable of

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detecting each other's errors. This is not just the PC watching his/her crew, it is every crewmember monitoring crew performance, including that of the PC, for mistakes, distractions or reduced performance. Additionally, this ACT element doesn't just apply to your own crew but to the other aircraft within your formation.

A flight of two was providing mission support to a small unit doing insertion training. Weather encountered for the NVG portion of the mission fell below that which was authorized. Knowing the flight conditions that existed, flight lead/AMC still proceeded with the mission in marginal weather conditions. Consequently, the lead aircraft crashed due to weather-related factors. The PC of the non-accident aircraft did not reinforce to the AMC that the weather was below authorized minimums for the mission and an alternate course of action was necessary.

So how do you address an error such as this? You are not the AMC or flight lead, but you know that taking off or operating in the marginal conditions poses a potential hazard to flight and is not within briefed guidelines. When you note an error, you quickly and professionally inform and assist the flight lead/AMC committing the error. Using **"advocacy and assertion",** you should be proactive in advocating a course of action you consider best—even if others may disagree.

Most important, every member of the crew or flight displays a sense of responsibility for adhering to flight regulations, operating procedures, and safety standards.

Jon Dickinson, Aviation Directorate

Accident findings: From the archives for your review

FINDING 1: (Present and Contributing: Human Error - Individual Failure): While performing as a mission briefing officer (MBO) for a RL progression training flight, the MBO failed to properly identify and mitigate risk for the flight in contravention to the unit's SOP and AR 95-1. That is, he approved a mission brief and risk assessment filled out by a platoon leader who was not part of the aircrew for the mission, and the Board suspects he did not conduct a face-to-face briefing with any crewmember.

FINDING 2: (Present but Not Contributing): Review of the risk assessment showed multiple inconsistencies. Examples include: multiple moderate risk conditions do not add up to high risk. Night unaided flight in zero percent illumination is low risk with a low NVG time PI (under 50 hours) where NVG night is an automatic moderate risk mission. Failure to properly identify/assess risks could lead to mistakes in mission planning and execution.

FINDING 3: (Present but Not Contributing): The board found the mission approval process was not adhered to in accordance with AR 95-1 and the Tactical Standard Operating Procedures. This was evident from the lack of interaction between the AMC, briefing officer, and final mission approval authority. There were mistakes made on the Electronic Risk Assessment Worksheet (ERAW) and 5484-R made by the AMC that should have been addressed during the briefing process. Additionally, the briefing officer did not conduct a brief-back with the AMC and was unclear on all the information on the 5484-R. Finally, the mission approval authority did not catch any of the errors on the ERAW and 5484-R.

RISK MANAGEMENT FOR COMMANDERS

I knew from the look on my safety officer's face as he walked in the door that I was about to hear the news that every commander dreads most. "Sir, there's been an accident; one of our Cobras has gone down!" he said. I felt my stomach twist into knots; my worst nightmare as a troop commander had happened. "Fatalities, injuries?" I muttered as I tried to grasp this painful news. "Yes sir, both crewmembers are dead."

"What happened?" I stammered, still trying to accept that this could really happen in my unit. "Apparently, they went inadvertent IMC, lost control of the aircraft, and crashed into the trees," the safety officer replied as he turned away to begin executing the pre-accident plan.

I hadn't called the battalion commander earlier for mission approval because it was only a medium risk mission. Now I had to call and tell him about the accident, but first I needed a minute alone. I must somehow be responsible. It was a simple mission … *I thought.*

The mission

The mission was a multi-ship (two aircraft) NVG cross-country flight, point A to point B and return after refueling. How easy could it get? The weather wasn't all that great - but nothing the crews couldn't handle … *I thought.* My new, aggressive AH-1 instructor pilot was flight lead; how could there have been any problems? I know the crews did their mission planning because I signed the mission brief sheet and reviewed the risk assessment. I didn't evaluate their assessment but everything seemed in order.

The risk assessment showed that it was just another medium risk mission, and it was assessed as medium risk rather than low risk primarily because it was an NVG mission with a newly assigned aviator as part of the crew. I'm the approving authority for medium risk, and I didn't concern myself with that too much since it was just a cross-country flight.

It was a low-stress mission; the crew was in no hurry to get there and back. We didn't violate any procedures or policies that I knew of. The aircraft was in top shape – no reported deficiencies, not even on the dash 14. What could have gone wrong?

Focus on commander's role

As the commander agonizes over what went wrong, let's look at the accident from another perspective. Rather than dwell on any individual errors made by the crew, let's focus on the role the commander played or should have played in applying risk management in the unit.

Applying risk management

By now, just about everyone in America's Army should know about and understand the five-step risk management process. People in the field seem to have a good grasp of the risk management steps and are doing a good job in accomplishing some of them; but more work is needed on some of the others.

• **Identify the hazards.** In Army aviation, we're doing this well. The process by which hazards may be identified include brainstorming, METL assessments, reviewing exercise lessons learned, experienced - aviator recommendations, and accident reports as well as unit hazard matrices and ones from similar units.

• **Assess the hazards.** We need to do a lot more work in this area. This is where we can reduce the

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hazards identified by asking the hard questions and getting the right answers to help us make smarter risk decisions. This takes thought and vision before attempting the mission. Commanders must decide what constitutes a low, medium, high, or extremely-high risk mission beginning with their METL assessment. And they must ensure the assigned risk level accurately reflects all risks associated with the mission. In other words, don't let the high risk mission slip through the cracks and be assessed as only medium or low risk.

• **Make risk decisions.** Decisions become more obvious if the hard questions are asked first. Will the benefits to be gained from doing this mission outweigh the potential costs? Is there any single identified hazard that could of itself cause this mission to be a higher risk than is reflected on the risk assessment? Perhaps an independent assessment by the commander would bring this to light. If the mission is, in fact, a higher risk than identified on the risk assessment, then the commander should elevate the risk decision to the next level in the chain of command.

• **Implement controls.** This is where we begin to make money in risk management. Leaders must take steps to eliminate or reduce the risks that have been identified for every mission regardless of the risk level. If the risks cannot be eliminated, then we must look for ways to control them.

• **Supervise.** Leaders earn their pay in this step of the risk-management process. You must ensure your subordinates are carrying out your directives so that the unit can successfully execute the mission without an accident or injury.

Risk-management principles

The word is getting out on force protection and safety. It's being taught in the classrooms to officers and NCOs. On the flight lines, in the briefing rooms, and in the maintenance hangars, people are talking about how to identify, assess, and manage the risks associated with the task they are about to perform. But before commanders can effectively use risk management as an accident-prevention tool, they must remember to-

• Integrate risk management into planning.

• *Accept* no *unnecessary risk.*

• Make risk decisions at the proper level.

• Accept the risk if benefits outweigh the cost.

The probability is high that the accident in the scenario would have been prevented if the commander had made better decisions by more aggressively and effectively managing the risks within the confines of the stated rules and steps.

How could the accident have been prevented?

In the accident scenario, the commander briefed the mission, reviewed the risk assessment sheet, saw that it was in order, and signed as the approving authority. Because it was only a medium-risk mission, he signed off on the assessment without giving any further thought to altering the mission profile to lower the identified risks. In his mind, he fulfilled the requirement by filling out the necessary forms so his crews could train.

Remember the risk management principle: *Accept* no *unnecessary risk.* Although the risk assessment showed that the mission was only medium risk, the following identified hazards could have been eliminated or controlled to further reduce the mission to a low risk one:

• **The weather was forecast marginal VFR throughout the night.** Was this a necessary mission? Did it have to be done that particular night? Probably not. Rescheduling the mission for a time

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when the forecast weather would have been better was an option the commander could have considered.

• **The crew had fewer than 700 hours each of total time and fewer than 100 hours collectively under goggles.** Were these crewmembers ready for this mission - even as simple as it seemed? Considering the weather conditions, the commander could have given extra thought to the fact that the mission was going to be performed by a newly assigned pilot and instructor pilot rather than two fully trained pilots. Perhaps there were other crew mixes the commander could have selected for the mission. And if the mission was readiness level training, why did they need to push the weather?

• **The mission was not part of the unit's METL.** Were both crews trained to routinely execute this mission under the identified conditions? Was the training necessary? Performing a non-METL task may include additional hazards not previously identified; for example, inadvertent IMC formation breakup procedures. The risk may automatically be higher when performing a non-METL task. If any question existed, the commander should have notified the next higher level in the risk decision-making chain.

• **The route of flight was over large areas of low or very poor contrast (large bodies of water coupled with low ambient light). The moon was just on the horizon at takeoff time and there was an intermittent cloud deck at 1,000 feet AGL.** Since there was no urgency to complete the mission, it could have been rescheduled for a time when light levels would have been higher. Rather than hoping that while en route the weather would improve, the commander could have had the crews delay their takeoff or change the route.

Did the risk assessment accurately reflect the true risk of the mission? Using the "prudent man" concept, flying a newly assigned pilot under goggles in formation and in marginal weather conditions would constitute a high risk within itself. In cases such as this one, would it hurt to notify the boss, just so he is aware, even if it is only a medium-risk mission? If it doesn't feel right, talk to your boss. Perhaps it's actually a higher risk than your assessment shows. Your commander may be able to provide some insight. **Numerical values on a risk assessment are not the end all.**

The commander in the accident scenario saw that his crews had accomplished the requirement for the risk assessment; however, he failed to apply sound *risk management.* He did not get actively involved in the risk assessment by thoroughly reviewing it or doing any further evaluation of the assessment. And his decision-making process did not include the steps to eliminate or control the known risks. The fact that he was the approving authority for a medium-risk mission meant he could sign off the mission. However, he still had an additional responsibility to aggressively pursue ways to reduce the identified risks.

This is perhaps the crux of many of our accidents: leaders are failing to complete the risk management (decision-making) cycle and in some cases are failing to become actively involved. Commanders are allowing crews to simply identify the hazards, assess the risk, get a numerical value on the assessment, decide who is the approving authority, get it signed, and off they go. *This is* a *leadership failure.*

Leader responsibility

Leaders are responsible for ensuring soldiers are not placed in situations where the risk is higher than the payoff. The risk management process is an integral part of leadership. "I thought it

Continued on next page

was a simple mission" has killed far too many people.

Doctrine demands leaders do all they can to protect the force. Skillful risk management is the way to do just that. However, risk management does not end with the risk assessment; the terms are not synonymous. Risk assessment is a two-step process: identify the hazards associated with the mission and assess the hazards.

The risk assessment of those hazards is where leaders need to get more involved. While we review many hazards associated with a particular mission profile, it may be that only one or two hazards in that profile would be considered risky. The problem occurs when crews finish their assessment and come up with a numerical value that is assessed as low or medium risk even though there are one or two hazards that could pose a high risk. Using good judgment, commanders should review the assessment and upgrade the mission to a high risk because that one hazard that is risky could taint the whole mission unless steps are taken to eliminate or reduce that high-risk factor.

Heightened awareness of risks is a good tool for reducing accidents. If you believe numerical values are the end all to identifying and assessing the risks, then how do you explain the startling fact that most accidents happen during numerically defined low-risk missions? Accidents are not happening in the high-risk missions because of awareness. The more aware crews are of the possible hazards, the more prepared they are to execute the mission successfully.

The risk assessment is completed before the mission begins. It can be a quick mental process or a detailed formal document. However, managing the risks is a continuous process. As new hazards are encountered during the mission, crews must continually apply the rules and mentally reassess the situation to determine if the risk level has changed.

All commanders have a responsibility to ask the hard questions of their mission planners, crews, and themselves. "Have we looked at every single identified hazard to determine if it could reasonably cause this mission to be a higher risk than is reflected on the risk assessment? Have we done everything possible to reduce or control the identified hazards?" If the answer is "No," be prepared for your worst nightmare.

Short of losing a loved one, losing soldiers under your command may be the most painful emotion you'll ever experience. Just imagine feeling somehow responsible for someone losing their life or suffering a disabling injury when you could have prevented it...if you had effectively managed the risks.

There are two kinds of people who don't say much: those who are quiet and those who talk a lot.

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Selected Aircraft Mishap Briefs

Information based on Preliminary reports of aircraft mishaps reported in late March 2015.

Utility helicopters

UH-60 

-M series. During conduct of dust landing training the main rotor blades contacted and severed the tail rotor drive shaft. Aircraft subsequently landed hard. (Class A)

-M series. #2 engine overspeed occurred at a 10' hover. (Class C)

-A series. During a NVG insertion the tail rotor and stabilator contacted an object. (Class B)

-L series. On run-up, fire extinguisher cover blew into the rotor system damaging two blades. (Class C)

Mi17 

On run-up tail drive shaft bearing failed. (Class C)

Attack helicopters

AH-64D 

-During gunnery training, aircraft tail rotor contacted a tree. (Class C)

Observation helicopters

H-6 

Tail rotor contacted MOUT site during training. (Class C)

Unmanned Aircraft Systems

RQ-7B 

-During approach, UA lost power at 30 feet AGL and landed hard. (Class C)

Why is it that if someone tells you that there are one billion stars in the universe you believe them, but if they tell you a wall's paint is wet, you will touch it to be sure?

If you have comments, input, or contributions to Flightfax, feel free to contact the Aviation Directorate, U.S. Army Combat Readiness Center at com (334) 255-3530, DSN 558-3530

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